

Statewide Washington Integrated Fish Distribution (SWIFD)

Schema and Data Dictionary

Washington Department of Fish and Wildlife (WDFW) and the Northwest Indian Fish Commission (NWIFC)

FIELDS	Description	Source
LLID	Unique stream route identifier assigned by WDFW.	WDFW
LLID_STRM_NAME	Proper name, specific term, or expression by which a particular geographic entity is known in the WDFW LLID streams database.	WDFW
SPECRCODE	Abbreviated text for Species and RunTime or Species and Sub-species. See Appendix 2 for definitions.	WDFW
SPECIESRUN	Full text for Species and RunTime or Species and Sub-species. See Appendix 2 for definitions.	WDFW
SPECCODE	Abbreviated text for Species. Code is the same as in WDFW SaSI database. See Appendix 2 for definitions.	WDFW
SPECIES	Full text for Species. See Appendix 2 for definitions.	WDFW
RUN_TIME	Numeric code for timing of the species run. 1, 2, 3, 4, 9 See values below	WDFW
RUNTIME_DESC	Full text description of the timing of the species run. 1 = Spring, 2= Summer, 3= Fall, 4 = Winter, 9 = Unknown or not applicable	WDFW
DIST_TYPE	10,11,12,13,20,21,23,30,31,33,40,41,50, 51 See Appendix 3 for definitions.	WDFW
DISTTYPE_DESC	See Appendix 3 for definitions.	WDFW
USE_TYPE	1,2,3 (See values below.)	WDFW
USETYPE_DESC	Use type: 1 = Migration; 2 = Spawning; 3 = Rearing	WDFW
LIFE_HIST	1,2,3,4,5 (see below)	WDFW
LIFEHIST_DESC	Life Cycle History: 1 = Anadromous, 2 = Resident, 3 = Fluvial, 4 = Adfluvial, 5 = Unknown	WDFW

SWIFD Species and Species/Runs

SPECRCODE	SPECIESRUN	SPECCODE	SPECIES
CHFA	Fall Chinook	CK	Chinook
CHSP	Spring Chinook	CK	Chinook
CHSU	Summer Chinook	CK	Chinook
CHUN	Unknown Chinook	CK	Chinook
CHMF	Fall Chum	CH	Chum
CHMS	Summer Chum	CH	Chum
CHMW	Winter Chum	CH	Chum
CHMU	Unknown Chum	CH	Chum
COHO	Coho	CO	Coho
PINK	Pink	PK	Pink
SOCK	Sockeye	SO	Sockeye
STSU	Summer Steelhead	SH	Steelhead
STWI	Winter Steelhead	SH	Steelhead
STUN	Unknown Steelhead	SH	Steelhead
WHST	White Sturgeon	WS	White Sturgeon
MWF	Mount Whitefish	MWF	Mount Whitefish
WAL	Walleye	WAL	Walleye
GRST	Green Sturgeon	GRS	Green Sturgeon
SHAD	American Shad	AMS	American Shad
DBT	Dolly Varden/ Bull Trout	BLC	Bull Trout
CCT	Resident Coastal Cutthroat	CT	Cutthroat
WCT	Westslope Cutthroat	WCT	Westslope Cutthroat
KOK	Kokanee	K	Kokanee
RBT	Rainbow Trout	RB	Rainbow Trout
EBT	Eastern Brook Trout	EB	Eastern Brook Trout
BRT	Brown Trout	BT	Brown Trout
SMB	Smallmouth Bass	SMB	Smallmouth Bass
LMB	Largemouth Bass	LMB	Largemouth Bass
BUR	Burbot	BUR	Burbot
PGY	Pygmy Whitefish	PGW	Pygmy Whitefish

SWIFD Distribution Type Definitions

DIST_TYPE	DISTYPE_DESC	Definition	Citation
10	Documented	<p>Aquatic stream habitat that is documented to be presently utilized by fish (based on reliable published sources, survey notes, first-hand sightings, etc.). This includes habitat used by any life history stage for any length of time. This designation is applied to all stream sections downstream of a documented sighting to the next "Documented" habitat section (or to marine waters), unless otherwise indicated by a formal review group.</p> <p>Notes: Synonyms include "Known" and "Currently Occupied". Examples of the "formal review groups" include LFA Technical Advisory Groups, WRIA 1 Project Updates (2004), NWIFC SSHIAP combination with LFA, joint WDFW/USFWS bull trout recovery teams, and inter-agency gatherings to contribute to Priority Habitats and Species (PHS) updates.</p>	O'Connor, D. 2002; McTeague, B. 2006 (Revision). Fish Distribution and Use Data Category Definitions. WDFW.
11	Documented-Transported	<p>Aquatic habitat that meets the basic criteria for "Documented" where fish presence is wholly supported by an active fish transport (trap & haul) operation. In all instances the fish transport operation maintains fish use within streams and basins that historically supported fish presence prior to construction of an impassable dam.</p>	O'Connor, D. 2002; McTeague, B. 2006 (Revision). Fish Distribution and Use Data Category Definitions. WDFW.
12	Documented-Historic	<p>Aquatic habitat that meets the basic criteria for "Documented" where the available documentation is more than 20 years old. For some species/runs, also includes aquatic habitat that a consensus of biological opinion has been deemed to have supported that species/run prior to either the depression of the fish stock or the general degradation of the habitat to the point where is no longer supports utilization by that species. Instances for each occurrence would include Upper Columbia Coho above the Columbia River dams, a stock that is severely depressed and therefore does not currently occupy is historic extent and Summer Steelhead in the Yakima Basin where extensive irrigation activities have resulted in changes in the hydrologic cycle such that the aquatic habitat no longer can support Steelhead use. Also considered for inclusion in historic presence is aquatic habitat above certain dams whose blocking effect to fish passage can or will not be mitigated by passage facilities or transport activities. Examples include Chief Joseph Dam and Grand Coulee Dam. These features are deemed immanent features and for management purposes are considered 'part of the landscape'. Notes: Refinement of the definition and scope of Historic Presence(s) were undertaken during the summer and fall of 2005 based on the Federal Caucus report: Conservation of Columbia Basin Fish: Building a Conceptual Recovery Plan ("All-H Paper") December 1999. As of May 2006 additional definition of Historic Presences is ongoing. At this time generalized Historic Distribution has only been fully defined for summer run Steelhead. It is likely however that several other salmonid species, namely Coho and spring Chinook and to a lesser degree summer Chinook and sockeye salmon, historically had a geographic distribution extent similar to that which has been defined for summer run steelhead. Currently several species are shown as Historically Present to just above Grand Coulee Dam. In reality the great likelihood is that these species' 'pre-dam' distribution extents extended significantly further upstream in the Columbia River and into a number of accessible upstream tributaries. Additional updates will occur as information and biological consensus becomes available.</p>	O'Connor, D. 2002; McTeague, B. 2006 (Revision). Fish Distribution and Use Data Category Definitions. WDFW.

DIST_TYPE	DISTYPE_DESC	Definition	Citation
13	Documented-Artificial	Aquatic habitat that meets the basic criteria for “Documented”, did not historically support a particular salmonid species, but has now been opened up to use. Examples are fish ladders providing passage past a historically impassable waterfall or the creation of irrigation ditches now used by salmonids. Notes: “Documented” presence identified by LFA TAG meetings or the NWIFC SSHIAP combination with LFA, has not always been coded with this sub-category.	O'Connor, D. 2002; McTeague, B. 2006 (Revision). Fish Distribution and Use Data Category Definitions. WDFW.
20	Presumed	Aquatic habitat lacking reliable documentation of fish use where, based on the available data and best biological opinion/consensus, fish are presumed to occur. For migratory fish, such habitat will extend upstream to the end of the stream OR to the first known natural barrier (including sustained 12% stream gradient or small stream size). Best biological judgment includes consideration of suitable (species-specific) habitat availability, life history strategies, proximity and connectivity to adjacent “Documented” habitat sections or logical extrapolation of range from similar systems. Notes: Synonyms include “Suitable Habitat”.	O'Connor, D. 2002; McTeague, B. 2006 (Revision). Fish Distribution and Use Data Category Definitions. WDFW.
21	Presumed-Transported	Aquatic habitat lacking reliable documentation of fish use where, based on the available data and best biological opinion/consensus, fish are presumed to occur that is within a basin or stream system where fish presence(s) is/are maintain through an active transport (trap & haul) operation. Definition is the same as ‘regular’ Presumed Presence except that an active transport operation maintains Known fish presence immediately downstream of the defined Presumed Presence in the basin or stream. Notes: Synonyms include “Suitable Habitat”.	O'Connor, D. 2002; McTeague, B. 2006 (Revision). Fish Distribution and Use Data Category Definitions. WDFW.
23	Presumed-Artificial	Aquatic habitat lacking reliable documentation of fish use where, based on the available data and best biological opinion/consensus, fish are presumed to occur that is within a basin or stream system where fish presence(s) is/are maintain through utilization of fish passage facilities. Definition is the same as ‘regular’ Presumed Presence except that a fishway or other passage facility has provided access to areas not historically open to the particular species. Notes: Synonyms include “Suitable Habitat”.	O'Connor, D. 2002; McTeague, B. 2006 (Revision). Fish Distribution and Use Data Category Definitions. WDFW.
30	Potential	Aquatic habitat that meets the basic criteria for “Presumed” but is unused by fish due to artificial (man-made) obstructions, degraded habitat quality, or extirpation of local fish populations. This category is used in cases where habitat could be made available to fish through removal of obstructions, improvement of habitat, or re-introductions of fish. Notes: Synonyms include “Recoverable Habitat”.	O'Connor, D. 2002; McTeague, B. 2006 (Revision). Fish Distribution and Use Data Category Definitions. WDFW.
31	Potential-Transported	Aquatic habitat that meets the basic criteria for “Presumed” but is unused by fish due to artificial obstructions, poor quality, or extirpation of local fish populations. This category is used in cases where habitat could be made available to fish through removal of obstructions, improvement of habitat, or re-introductions of fish. Definition is the same as ‘regular’ Potential Presence except that an active fish transport (trap & haul) operation maintains Known fish immediately downstream from the currently impassable man-made barrier. Notes: Synonyms include “Recoverable Habitat”.	O'Connor, D. 2002; McTeague, B. 2006 (Revision). Fish Distribution and Use Data Category Definitions. WDFW.

DIST_TYPE	DISTYPE_DESC	Definition	Citation
33	Potential-Artificial	Aquatic habitat that meets the basic criteria for "Presumed" but is unused by fish due to artificial obstructions, poor quality, or extirpation of local fish populations. This category is used in cases where habitat could be made available to fish through removal of obstructions, improvement of habitat, or re-introductions of fish. Definition is the same as 'regular' Potential Presence except that a fishway or other passage facility has provided access to areas not historically open to the particular species immediately downstream from the currently impassable man-made barrier. Notes: Synonyms include "Recoverable Habitat".	O'Connor, D. 2002; McTeague, B. 2006 (Revision). Fish Distribution and Use Data Category Definitions. WDFW.
40	Undetected	Aquatic habitat where, based on thorough physical and biological sampling, the particular fish species has not been detected.	O'Connor, D. 2002; McTeague, B. 2006 (Revision). Fish Distribution and Use Data Category Definitions. WDFW.
41	Undetected-AFS	Aquatic habitat where, based on sampling adhering to the guidelines published by the American Fisheries Society in 2000, bull trout have not been detected.	O'Connor, D. 2002; McTeague, B. 2006 (Revision). Fish Distribution and Use Data Category Definitions. WDFW.
50	Modeled	<p>Modeled habitat is based on a qualification of NWIFC SSHIAP gradient segments which were originally mapped from USGS 7.5-minute Topographic Quadrangle maps. This includes habitat upstream of known species presence, but downstream of any known natural barrier. The natural gradient barrier used for chum was 8%, and for all other species of salmon and/or trout was 12%. The modeled category does not factor habitat quality, flow or any other natural or human-caused condition that would otherwise prevent habitat use.</p> <p>As part of the WRIA 1 Watershed Management Project, the SSHIAP and LFA combined fish distribution maps were updated. As part of those updates habitat was modeled using different gradient barriers than the Modeled - NWIFC SSHIAP gradient barriers. Modelling gradient categories for salmon distribution updates for the WRIA 1 Watershed Project were based on the "Fish Passage Barrier and Surface Water Diversion Screening Assessment and Prioritization Manual," (WDFW 2000). Using the WDFW 2000 categories, Coho salmon habitat was extended to <= 16% gradient streams, Chum salmon habitat was restricted to <= 5% gradient streams, Pink salmon habitat was restricted to <=12% streams, Steelhead trout habitat was extended to <= 20% gradient, Cutthroat and Rainbow trout were also extended to <=20% gradient streams. Native Char segments were added for streams with "LFA historic/ potential" Coho distribution, and not by gradient classes. Sockeye salmon were not modeled. All of the modeled anadromous habitat occurs downstream of known anadromous barriers.</p>	<p>Cutler, J., B. Johnson, and R. McFarlane. 2003. Combined LFA/SSHIAP Fish Distribution Coverages and Data Tables.</p> <p>Coe, T. 2004. Salmon Distribution Updates for WRIA 1 Watershed Management Project. Nooksack Indian Tribe Natural Resources Department</p>